veh sim +log: ofstream +seedForRandomVehicleConfiguration +seedForStartingSimulation +v: vector< uint16 t > +idleVs: vector< uint16 t > +needChargingQ: vector< uint16 t > +missionQ: vector< uint16 t > +veh sim(configurationSeed) +findMissionCableVeh(idleVech, missonPassCnt) +simMinute() +simulate(simMinutes, executionSeed) +addLogHeader() +addLogRow(simMin) +checkSimConsistency() +displayVehicleStats() charger stations +charger stations() +addVehToCharger(vehID)

+freeVehFromCharger(vehID)

+getNumOfChargersAvail()

+getNumOfChargersInUse()

vehicle

+kCompany: evtol companies e +currentState: vehicle state e +vehicle() +sim(): sim result e

+startFlight(numPass) +startCharging()

+getCurrentState() +disp()

+displayStatistics(s:string)

+logEntry()

sim_result_e

+NO CHANGE +FLIGHT COMPLETE +CHARGE COMPLETE

vehicle_state_e

+IDLE +IN FLIGHT +WAIT CHARGE +IN CHARGE

evtol_prop

- +kCruiseSpeedMph
- +kMaxPassengers
- +kFaultProbPerHour
- +kMaxCruiseHrs
- +evtol prop() +disp()

evtol_companies_e

+ALPHA +BRAVO

+CHARLIE

+DELTA

+ECHO

+C NUM COMPANIES

evtol list

+alpha: evtol prop +bravo: evtol prop +charlie: evetol prop +delta: evtol prop +echo: evtol prop

+lst: evtol prop[C NUM COMPANIES]

+evtol list()

+getCompanyProperty(company)

+getCruiseMinEnergy(company)

+getChargeMinEnergy(company)

+getCruiseMinDistance(company)

+unitTest()

+disp()

- +kName: const char *
- +kbattKwh
- +kEnergyUseKwhPerMile
- +kMaxDistance